

SREB

2003 Study of Teacher Supply and Demand in Tennessee

Southern
Regional
Education
Board

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Teacher Supply and Demand in Tennessee, 2003

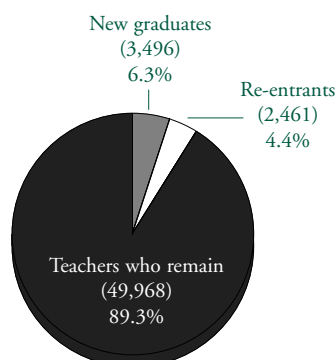
Who is hired to teach in Tennessee? _____

The hiring pattern for teachers in Tennessee changed in the 1990s. At the beginning of the decade, half of the newly hired teachers (those who were not teaching the year before) were new graduates and half were experienced teachers returning to the classroom. By the end of the decade, 59 percent were new graduates and 41 percent were experienced teachers. Almost 3,500 new teachers with no experience were hired in 2001, compared with 1,400 in the early '90s. More than 29 percent of teachers have less than six years of experience — up from 19 percent in 1992. The higher percentage of inexperienced teachers was because of increased hiring of teachers to reduce class sizes, accommodate growth in the number of students and replace retiring teachers.

However, the overall supply of teachers often is misunderstood. Discussions of teacher supply usually address only the number of new graduates, but new graduates represent a small portion of the total number of teachers. For instance, 90 percent (about 50,000) of the teachers in 2001 had been in Tennessee classrooms the year before. Four percent were experienced teachers who were returning to the classroom, and 6 percent were new teachers with no experience.

Keeping new and veteran teachers in the classrooms is important to maintaining a stable work force and preventing shortages. Most teachers who leave don't return. The likelihood that teachers who quit will return to the profession is greatest within one year after they leave; the longer they are out of education, the less likely they are to return to teaching. About one-fourth of former educators (including retirees) in Tennessee return.

Supply of Teachers, 2001



Is Tennessee losing educators at higher rates than earlier in the decade, when the Education Improvement Act was passed? _____

In the last five years the turnover of educators in Tennessee has averaged between 6 percent and 8 percent. However, this average doesn't tell the whole story. Among new teachers who have no previous experience, 35 percent leave within the first four years of teaching and an additional 6 percent leave by the end of the fifth year. The percentages are much lower for teachers with more experience. For example, teachers with at least 10 years of experience have an attrition rate of 5 percent. The percentages don't start to rise again until teachers are at retirement age — about 28 years of experience. Overall, teachers with five years of experience or less account for 44 percent of all educators who leave Tennessee classrooms. The loss of new teachers became more serious as the 1990s progressed. Early in the decade, 95 percent of first-year teachers stayed in the classroom; by the end of the decade, only 84 percent of first-year teachers returned for a second year. In 2000, the number of teachers with five years' experience or less who left the classroom was 2,325 — about the same total number of teachers with 11 or more years of experience who quit teaching (2,336). Retaining new teachers is a serious problem for Tennessee and other SREB states.

A 2002 study of teachers who left teaching in public schools was conducted by the Tennessee Higher Education Commission and published by the Tennessee P-16 Council. The study showed that middle grades teachers were the least satisfied with their jobs and that elementary school teachers were the most satisfied. The teachers who left the profession were most dissatisfied with professional prestige and salary and benefits. However, child-rearing/pregnancy was the most common reason

Attrition Rates of Teachers by Years of Experience



(29 percent) for leaving teaching. Lack of support from administrators (17 percent) and dissatisfaction with salary and benefits (8 percent) were the other top reasons. All other responses combined made up the other 46 percent of answers.

Who is teaching in Tennessee schools? _____

The diversity — or the lack of diversity — of educators changed very little in the 1990s. Three-fourths of all teachers in Tennessee were women, and the percentages of female administrators — especially principals and vice principals — increased steadily. However, there was little improvement in the small numbers of women in the top ranks; in fact, there has been a recent decline. For example, women accounted for 13 percent of superintendents in 2001, compared with 15 percent in 1999 and 17 percent in 2000.

While educators whose race/ethnicity is unknown now account for 7 percent of the work force, some trends can be noted. The total percentage of minority teachers did not increase in the 1990s, but African-American educators increased between 2 percent and 4 percent each year from 1999 to 2001. The percentages of black educators are highest among principals, assistant principals, high school business teachers and counselors. In 2001 black teachers represented 12 percent of new teachers, which was slightly larger than the percentage of teachers leaving the profession who were black (11 percent). Black teachers also accounted for 11 percent of all teachers who remained in the profession. Tennessee, like other SREB states, has had difficulty recruiting and retaining black teachers. While percentages of minority students continue to grow, there have been no similar increases in teacher diversity in SREB states. Tennessee has taken action with the Minority Teaching Fellows Program and Minority Teaching Education Grant Program and more black graduates are taking teaching jobs in Tennessee, but additional policies and strategies are needed.

Characteristics of Tennessee Teachers, 2000-2001

	Retained	Returned to classroom*	New	Left
Average age	45	40	29	44
Average years of experience	15	8	0	12
Average salary	\$37,816	\$30,420	\$23,805	\$35,100
Percent black	11%	10%	12%	11%

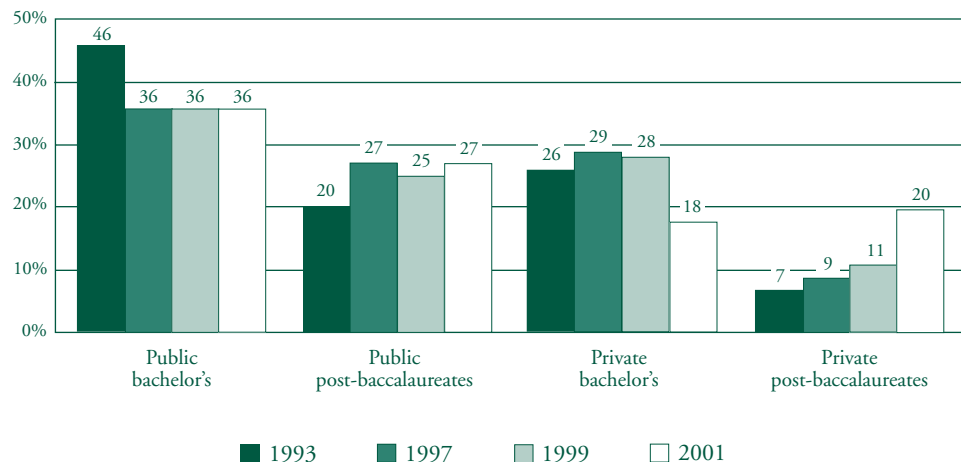
* Returned after leaving Tennessee classrooms for at least a year.

Who is being prepared to teach in Tennessee schools? _____

The quality of Tennessee's schools clearly is linked to the quality of its teacher preparation programs. Every year, about three-fourths of the new graduates hired to teach graduated from Tennessee's colleges and universities. By making sure their graduates are ready to teach effectively in classrooms, a state's colleges and universities play a critical role in ensuring that all students receive a quality education.

Since the mid-'90s, the total number of bachelor's degree graduates who seek first-time teacher licensure (at public and private colleges and universities) increased by 5 percent — to slightly more than 1,700 in 2001. In the last five years, bachelor's programs in public colleges and universities have been accounting for about the same percentage of the total number of people seeking first licensure, while the share of bachelor's graduates from private programs has decreased.

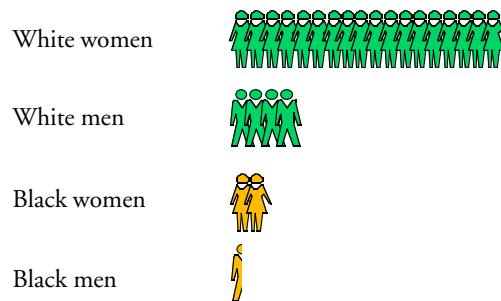
Educational Preparation of People Seeking First Licensure



Bachelor's programs in public colleges and universities accounted for 46 percent of all graduates in 1993 but only 36 percent of all graduates in 2001. Since the mid-'90s the percentage of graduates of public post-baccalaureate programs has remained stable, while the percentage grew from 7 percent to 20 percent for private post-baccalaureate programs.

Since 1992 the number of black graduates from all programs has doubled, but there still is little diversity. For every black male graduate, there are 4 black female graduates, 8 white male graduates and 36 white female graduates. The post-baccalaureate programs in Tennessee have slightly higher percentages of men and minorities than do the bachelor's programs.

Characteristics of People Prepared to Teach and Seeking First Licensure, 2001



How many graduates of Tennessee's teacher education programs become teachers in the state's classrooms? The good news is that a higher percentage of new graduates are being hired for Tennessee's classrooms now than in the early 1990s. Most teachers hired are graduates of bachelor's degree programs, but post-baccalaureate programs contribute a significant number.

At the beginning of the '90s, 40 percent of the bachelor's program graduates and 24 percent of the post-baccalaureate graduates from Tennessee's public colleges and universities were hired in Tennessee. In 1999, 72 percent of graduates with bachelor's and 54 percent of post-baccalaureate graduates were hired in the state. These percentages dropped a bit by 2000: 63 percent of bachelor's graduates and 50 percent of post-baccalaureate graduates.

Hiring rates for graduates of private colleges and universities also increased in the 1990s. In the early '90s, 27 percent of graduates of private bachelor's programs were hired in Tennessee; in the two most recent years of analysis (1999 and 2000), 44 percent and 48 percent, respectively, were hired. At the beginning of the decade, 32 percent of graduates with post-baccalaureate degrees from private colleges and universities were hired; this percentage rose to 46 percent in 1999 and 43 percent in 2000. Data were not available on those hired to teach in other states or those who did not become teachers.

Most programs prepare many teachers for elementary schools. Sixty percent (9,714) of all graduates of public colleges and universities hired from 1992 to 2001 had majored in elementary, early childhood, multidisciplinary or special education or had earned undergraduate degrees before entering post-baccalaureate programs. On the other hand, few graduates are prepared to teach subject areas in secondary schools. In many subjects — such as foreign languages, sciences and mathematics — the numbers of graduates prepared and hired are quite small. For instance, from 1992 to 2001, public colleges and universities prepared seven chemistry majors for Tennessee classrooms, and four entered teaching. There were 25 science or chemistry education majors, and 14 began teaching. Of the 70 mathematics education majors, 39 entered

teaching. Of the 180 mathematics majors seeking licensure, 112 began teaching in Tennessee classrooms.

Since 1995, all teachers in Tennessee have been required to complete academic majors. Thus, those with majors such as elementary education or science education were trained before 1995. However, this law will take time to have a visible effect on the preparation of the teaching force, and, as the numbers in science and mathematics over a decade illustrate, the shortages of graduates in some academic subjects are unlikely to go away. States such as Tennessee need to look at alternative ways — such as distance learning — to educate students in some subject areas for which teachers are scarce.

All SREB states, including Tennessee, have to make sure that all teachers are “highly qualified” under the No Child Left Behind (NCLB) legislation. States are finding it especially difficult to staff middle grades and rural schools with teachers who have the necessary content knowledge. In the last 10 years almost half (47 percent) of middle school teachers and 38 percent of junior high school teachers who graduated from Tennessee’s public colleges and universities majored in multidisciplinary studies. Almost 30 percent of middle school teachers and 18 percent of junior high teachers majored in elementary education. These percentages raise questions about how many Tennessee middle grades and junior high teachers would currently meet the NCLB requirements for specific content knowledge.

Does Tennessee have a teacher shortage? _____

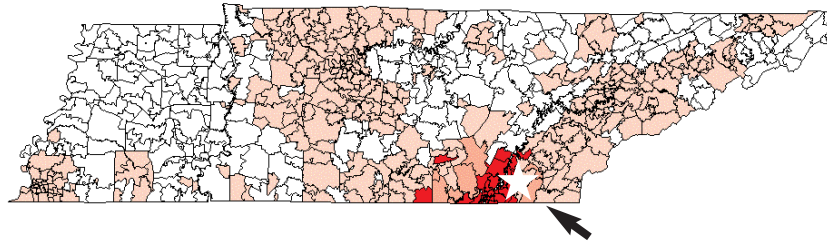
What is the supply of teachers?

The teacher supply is examined best when all sources are considered — new graduates, former teachers who re-enter the profession and, most importantly, those who remain in the classroom from year to year.

Another potential source of teachers is the “reserve pool” — licensed teachers who are not teaching. Studies show that teachers rarely return to the classroom after an absence of a year or more. A further impediment is the dearth of reserve-pool teachers in some subjects. For instance, more than 7,600 teachers in the reserve pool have endorsements in elementary school teaching, but only about 800 have endorsements in mathematics.

Teacher supply varies not only by subject matter but also by geographic area within the state. Data from Tennessee through the 1990s show very clearly that graduates tend to be hired in school systems near their home colleges or universities, while school systems in other parts of the state struggle to fill teaching positions. This pattern is similar to those in other states that have studied the trends. The following maps show the hiring patterns around two Tennessee universities.

University of Tennessee at Chattanooga



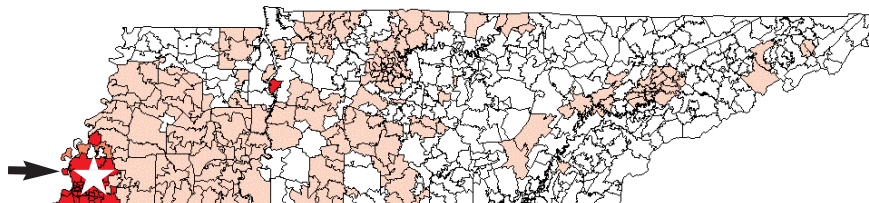
Darkest shades show districts where more graduates are employed.

How many teachers are needed?

How many teachers are needed in Tennessee, and where in the state are they needed? Are teachers — especially those who are being prepared to teach shortage subjects — willing to work in the parts of the state that need them? The demand for teachers is very uneven across the state. Thirty-five percent of all Tennessee educators work in five districts, and half (50 percent) work in 13 districts. Tennessee, like some other SREB states, has large rural areas. Eighty percent of all school districts in Tennessee have 500 or fewer educators. These small districts employ 36 percent of the state's teachers. Demand for teachers, like supply of teachers, is regional.

Several factors influence demand for teachers. These factors include increases or decreases in student enrollment, standards for student-to-teacher ratios, and state efforts to reduce class sizes. The 2003 study of teacher supply and demand in Tennessee uses state standards for classrooms — Tennessee's mandate to reduce student-to-teacher ratios in different grades — to determine how many teachers might be needed.

The University of Memphis



Darkest shades show districts where more graduates are employed.

Student enrollment in Tennessee has declined by about 2 percent in the last five years (1998 to 2002). From 1997 to 2001, the number of educators hired increased by about 11 percent, indicating a reduction in student-to-teacher ratios. However, enrollment growth varies greatly by grade level and district and does not give a clear picture of the situation statewide. From 2003 to 2007, high school enrollments are projected to decrease in 33 percent of districts and to increase in 65 percent of districts. Elementary school enrollments are expected to decrease in 38 percent of districts and to increase in 62 percent. Districts will have varying needs for teachers.

Projected Enrollment Changes by District, 2003 to 2007

	Decreased enrollment	Same	Increased enrollment
Total	46%	2%	52%
Kindergarten	57	1	42
Elementary school (1-4)	38	0	62
Middle school (5-6)	66	1	34
Junior high school (7-8)	59	0	41
High school	33	2	65
Special education	46	25	29

Districts with high demand for teachers often have higher percentages of teachers who have only waivers or permits, rather than full teaching credentials. Less than 4 percent of educators statewide have waivers or permits, but this figure varies by school system. This problem can affect both urban and rural systems. The state's largest urban system has the highest percentage (11 percent) of teachers with waivers or permits. The second-highest percentage (8 percent) is another urban district. The next eight districts are suburban and rural and average 1.8 percent of teachers with waivers or permits; the percentages of waivers or permits range from 4.5 to 0.4.

Another problem for districts and schools is that demand sometimes doesn't match the available supply. The available teachers may not teach the grade levels or subjects needed. Shortages exist or may develop in several subject areas. A top concern for Tennessee and other SREB states is the need for special education teachers, especially those who can teach students with visual or hearing disabilities. Teachers also are needed for foreign languages, English as a second language, mathematics and sciences, especially in the secondary grades. Tennessee also faces shortages of guidance counselors and librarians. In the state's two largest urban areas, there even are shortages of social studies and elementary teachers.

Does Tennessee have a qualified teacher in every classroom? These supply and demand data can help begin to answer that question. However, increasing student achievement requires the state to focus on teacher qualifications (content knowledge and teaching skills) and to eliminate out-of-field teaching (class assignments that do not match teachers' content knowledge).

Information helps districts and states create policies on teacher quality

The 2003 study for Tennessee includes district-by-district information on the supply of and demand for teachers. This information gives a more complete picture that can help decision-makers understand a particular problem or how different problems affect different areas of the state. Information for the state and each district typically includes:

- changes in student enrollment;
- trends in demographics and changes in the work force for teachers, administrators and professional staff;
- student-to-teacher ratios;
- sources of teachers;
- experience levels of teachers hired;
- attrition of teachers; and
- licensure — including information on the “reserve pool” and the number of permits and waivers.

State and district policies and actions often are not based on good data and information, which often are not available. That is not the case for Tennessee. The information from this study can help Tennessee answer several key questions:

- What are the challenges in getting a quality work force? How is the state responding to No Child Left Behind requirements or a highly qualified teacher in every classroom?
- How can the state assist schools in recruiting new teachers and retaining new and experienced teachers?
- How can state policies alleviate statewide problems or regionally specific issues?
- Do state and district policies target the current problems?
- What grades or subjects have or will have shortages?
- Given the large number of rural districts with small numbers of teachers, how can changes in staff requirements be managed from year to year, especially with bulges of students moving from the early grades to the middle grades and then to high schools?
- How can state and district leaders work together to use information to make better decisions?

